

Overview

In this lesson we will...

- ❖ Use algebraic techniques to solve work problems.

Part 1 • Introduction to Work Problems

Imagine this: Mr. Fenton does some work. It takes him a long time because he's slow.

Now imagine this: A student does the same work. It doesn't take quite as long, but it still takes a while.

And now this: Mr. Fenton and the student **team up** to do the work together. So what happens? How quickly can they accomplish the task?

Example 1

Have Mr. Fenton complete some task. Record how long it takes him.

Example 2

Have a student volunteer complete the same task. Record the time.

Example 3

Make an estimate of how long it will take Mr. Fenton and the student to complete the task while working together.

Example 4

Have Mr. Fenton and the student work together to complete the task. Record the time. How does the result compare to your estimate?

Part 2 • Work Problems Algebraically

Let's explore the type of problem above—typically called a *work problem*—algebraically.

Example 5

Suppose it takes Mr. Fenton 6 minutes to complete a puzzle. It takes his son Caleb 12 minutes to complete the same puzzle. How long will it take them to complete the puzzle if they work together?

Algebra 1 • Day 85 Notes

Work Problems

Example 6

Imagine a huge stack of assignments on Mr. Harris' desk. If it would take Mr. Harris 20 minutes to grade the papers by himself, and it would take his TA 30 minutes to grade the papers by *himself*, how long would it take for them to grade the assignments if they worked together?